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ABSTRACT

The project was designed to develop a multisensory, language-oriented curriculum to introduce the letters of the alphabet to six hearing impaired preschoolers. Every week a new letter is introduced via such tasks as art and cooking activities, snacks, beginning sound picture cards, yarn and lacing letters, sandpaper letters, alphabet string beads, and name cards. Evaluation of the curriculum's effectiveness was undertaken through 14 activities centered on the child's spontaneous usage and on labeling and identification tasks. Narrative reports of the Ss in the project are presented, and evaluation data are offered for each. Results revealed that the youngest students (2.5 and 3 years old) achieved the original goal of enhancing their receptive awareness to the letters of the alphabet and the older students (3.5 through 5) also increased their expressive skills. Recommendations are offered for older students and for extended activities. (CL)

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A MULTISENSORY LANGUAGE APPROACH TO THE INTRODUCTION OF THE ALPHABET TO HEARING IMPAIRED PRESCHOOLERS

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CHAPTER I

INTRODUCTION

Society and parents are expecting more and more from pre-school and kindergarten children. Instead of allowing children to develop at more or less their own pace, more and more very young children are experiencing increasing pressure to achieve. (Briggs and Sampson 1981; Davis, 1980; Denny and Lamme, 1981; Elkind, 1982; Ernst, 1979; Goetz, 1979; and Ollila, 1977.)

Because a profoundly deaf child cannot "hear" language, every word a child is expected to understand must be taught. Generally, this teaching involves the child as an active participant. Hearing impaired children have an easier time attaching meaning to things, concepts, and ideas, when they are encouraged to become actively involved with the concept being introduced. (Appelman, Callahan and Lowenbraun, 1980; Chamberlain-Rickard, 1982; Mitchell, 1982; and Schwartz, 1979.)

Appelman et al.(1980), Chamberlain-Rickard (1982), Mavilya (1977), Meadow and Schlesinger (1972) agree that the more senses tapped within experiences provided for hearing impaired children, the better. If a word, such as banana, is to become part of their receptive and expressive vocabulary, hearing impaired children

must be allowed to see, feel, taste, and smell a banana. They have to be shown and encouraged to touch various sizes and colors of bananas. Hearing impaired children have to hold, peel, eat and mash several bananas. They have to encounter a banana on numerous occasions. They have to experience a banana in all shapes and forms -- sliced in half or quarters; cut-up on cereal or in jello; mashed up as in banana bread or banana cake.

Hearing impaired children should be exposed to bananas in picture form. Finding pictures of bananas in books and magazines and then matching them to real bananas, also helps in grasping the meaning of banana.

One cannot forget to take young hearing impaired children to the grocery store to purchase some real bananas from the fruit department. Through repetition after repetition of the above activities, hearing-impaired children will not only understand what a banana is, but will hopefully be able to sign it, lip-read it, and one day, say it. (Heimgartner, 1982)

Two popular approaches to educating hearing impaired students exist throughout the world. One approach is called, Oral. Heimgartner (1982) defines oralism as "a communication technique limited to speech, speech reading, writing, reading and amplification by hearing aids." (p. 17)

A second popular approach to educating hearing impaired students is called, Total Communication. Gustason, Pfetzing and

Zawolkow (1980) describe Total Communication as "the use of signs and finger-spelling in addition to speech, speech reading, amplification, visual aids, and the like." (p. VII) Heimgartner adds "Total communication techniques incorporate all possible means to train the hearing impaired individual to minimize his handicap while he functions in his everyday environment." (p. 19)

Even though this author advocates the Total Communication approach to educating hearing impaired students, the ideas presented can be implemented in an oral classroom by simply eliminating the use of signs and finger-spelling whenever mentioned.

Statement of the Problem

The alphabet plays an important role in the lives of hearing impaired children. The phonemic sounds alone aid in the development of speech and speech-reading/lip-reading skills. (Gardner and Zorfass, 1983; and Heimgartner, 1982)

In a Total Communication Program, hearing impaired children are taught language aided by the use of sign language and finger-spelling. Coley, Dubois and Vernon (1980) state that "signs are individual hand movements that stand for an entire word or phrase." (p. 216) On the other hand, finger-spelling or "the manual alphabet consists of separate hand positions for each of the twenty-six letters of the alphabet." (p. 216) Thus, the alphabet becomes a means of communication for hearing impaired children. Yet, the individual letters themselves are quite

abstract and mean nothing at sight to young hearing impaired preschoolers. They need something concrete and tangible to which meaning can be attached. (Appelman et al., 1980; Champie, 1981; Goodwin and Moores, 1978; and Mavilya and Mignone, 1977)

The question then becomes, is it appropriate for preprimary hearing impaired children to be exposed to the alphabet? And if so, how can this exposure to the alphabet be accomplished in a way that is appropriate for their young age and at the same time, satisfies their parents?

Significance of the Problem

This author teaches hearing impaired preschoolers in a Total Communication Program. Due to their hearing deficits, hearing impaired children exhibit delays in speech and language development. Studies documenting speech and language developmental delays as commonly accompanying hearing impairments include: Blackwell, Engen and Fischgrund (1978), Booher and Reynolds (1980), Geoffrion (1981), Holmes and Holmes (1981), and Meadow and Schlesinger (1972).

Caccamise, Johnson and Meath-Lang (1981), Kelly and Tomlinson-Keasey (1978), and Meadow and Schlesinger (1972) concure that vision plays a significant role in the educational process of hearing impaired students. Due to the limited use of the auditory input channel, vision becomes their major sensory modality for learning.

As a result, hearing impaired children tend to focus on minute details, including letters, at an early age.

Since reading is language, it is not surprising that the average hearing-impaired student fails to acquire reading skills comparable to hearing children. In fact, many hearing impaired students graduate from high school with a fourth grade reading level. (Bockmiller, 1981; Pollard and Shaw, 1982; and Rompf, 1981)

Such statistics identify definite problem areas in great need of attention. A logical approach to the particular problem of poor reading skills in hearing impaired children might be to capitalize on the visual strengths of the hearing impaired and to increase their language development, starting at an early age, by offering a means of visual language through sign language.

Gustason et al. (1980) declare "there has been great growth in the reported use of Total Communication in schools around the country, with roughly two-thirds of all classes for the hearing impaired reporting the use of signs and finger-spelling in addition to speech, speech-reading, amplification, visual aids, and the like." (p. VII)

In the early 70's, a system of sign language called Signing Exact English evolved. Gustason et al. explain that many individuals, both hearing and hearing impaired, were deeply concerned "with the poor English skills of many deaf students, and

the desire for an easier, more successful way of developing mastery of English in a far greater number of such students. They wanted to develop appropriate effective ways to represent English in a gestural mode." (p. IX)

When Signing Exact English is put into practice, everything that is spoken is simultaneously signed and/or finger-spelled. Signing Exact English depends heavily upon the alphabet to initialize various signs that would otherwise look the same to the eye and receptively could be misconstrued.

In addition to the number of programs for the hearing impaired changing from Oral to Total Communication, Gustason et al. (1980) indicate that these programs have adopted sign language systems designed to present English.

These facts substantiate the need to expose hearing impaired preschoolers to the alphabet. Which leads one back to the original problem of developing an appropriate way to expose hearing impaired preschoolers to the alphabet.

Purpose of the Project

The availability of alphabet materials on the market is plentiful. However, most purchased items include: blocks, puzzles, storybooks, stencils, and workbooks.

These materials by themselves do not tend to hold the attention of hearing impaired preschoolers, due to the language level associated with each activity. Also, the mentioned products are

basically visual-motor in nature and unidimensional. Rarely, does one find a purchased item which stimulates all five sensory modalities.

So, the purpose of this project is to develop a curriculum which is multisensory and language-oriented in nature, with the goal of introducing hearing impaired preschoolers to the letters of the alphabet in a concrete, meaningful, and age-appropriate manner.

Limitations

The project in question is limited to a small sample size of six students based on Michigan law which mandates that a teacher of the hearing impaired "shall have an enrollment of not more than seven students." (R. 340.1742)

Concluding Statement

A normal hearing child is constantly bombarded with language in his environment. This is not the case for hearing impaired children because they cannot hear the language around them. In order to help diminish the language delays of hearing impaired children, this project will also address the issue of parental involvement. Three to six hours a day in a classroom is not a sufficient amount of time to expose hearing impaired children to language. It must be enhanced in the home, also. The curriculum in question will be designed to include the parents as active participants.

Definitions

The following terms will be defined to provide the reader with a clearer understanding of concepts related to the field of deafness:

American Sign Language (ASL or Ameslan)

Is, in the United States, the native language of many deaf people who have deaf parents and is the language used by many deaf adults among themselves. Nearly 500,000 deaf people and an unknown number of hearing people use ASL, making it the third most widely used non-English language in the United States (Spanish, 4.5 million; Italian, 600,000). American Sign Language differs from these other languages, however, because unlike English, Spanish, Italian, and others, ASL is primarily manual/visual rather than oral/auditory. (Wilbur, 1979, p. 1)

Deafness

Is the deprivation of hearing prior to the acquisition of speech communication arts and skills. A loss of hearing sufficiently severe to render an understanding of conversational speech impossible in most situations with or without a hearing aid. (Heimgartner, 1982, p. 14)

Graphemes

Are written letters. (Pellegrini, 1981, p. 75)

Hearing Impairment

Is the most general term for malfunction of the auditory mechanism. It does not distingush either the anatomical area primarily involved or the functional nature of the impairment (sensitivity, frequency range, discrimination, sense of loudness of pitch, recognition of meaning, and the like). (Davis and Silverman, 1970 p. 497)

Language

is a unique symbol system that can be expressed in a variety of different ways. Speech is a method of

utilizing that unique symbol. However, other methods of utilizing a symbol system include writing, printing, finger-spelling, and signing. (Heimgartner, 1982, p. 22)

Phonology

Refers to the sounds of language. Most sounds are mastered by age four, although some (s, z, ch, sh, and j) may continue distorted until seven-and-a-half years of age. (Meadow and Schlesinger, 1972, p. 46)

Semantics

Is the organization of meaning or content shared by the users of a language. (Edwards and Ringhand, 1980, p. 361)

Signed English

Is a modification of American Sign Language designed to correspond directly to the grammar of standard English. (Roberts, 1979, p. 57)

Speech-Reading (Lip-Reading)

Is the observance of movements of the lips, face, body and accompanying gestures that are part of aural communication. (Heimgartner, 1982, p. 17)

Syntax

Is the linguistic structures used to communicate meaning between speaker and listener or writer and reader. (Edwards and Ringhand, 1980, p. 361)

CHAPTER II

REVIEW OF THE LITERATURE

The review of the literature related to this study on the introduction of the alphabet to hearing impaired preschoolers is organized into eight categories: (1) Language Development, (2) Early Education, (3) Classroom Environment and Experiences, (4) Reading Readiness, (5) Visual Learners, (6) Print Awareness and Written Language, (7) Parental Involvement, and (8) Pressures for Early Reading.

Language Development

Normal hearing children learn language through their ears from birth on. Cahir and Shuy (1981), Kane and Sheingold (1980), McKee and Thibault (1982) agree that by age three and a half, most hearing children have mastered much of the grammar of their language. Blackwell, Engen, Fischgrund and Zorcadoolas (1971) add:

> The hearing child enters school at 5 years of age with complex syntax, an almost fully developed phonology and semantic component that has been shaped and reshaped by continuous feedback from intelligible productions. (p. 62)

This course of event is not true for hearing impaired children. (Booher and Reynolds, 1980; Geoffrion, 1981; Holmes and Holmes,

1981; and Meadow and Schlesinger, 1972)

Power, Quigley and Russell (1977) claim that a profound hearing impairment causes a severe disruption in the process of language development during the early years of life. It produces "language deficiencies that are probably irremediable except to a limited extent." (p. 197)

Kirk (1972) adds "one of the major by-products of deafness is the deficit which results from the inability to hear language spoken by others." (p. 278)

Sometimes two years may elapse before a hearing impairment is diagnosed. Calvert and Silverman (1978) believe "the greater the hearing loss, the less chance there is of completely natural speech acquisition; and the later the beginning of instruction, the greater becomes the need for skilled speech teaching." (p. 64)

Since profoundly deaf children cannot "hear" language, every word in the English language must be introduced. Streng, Kretschmer and Kretschmer (1978) state "oral language does not emerge full blown in a hearing child, and for a deaf child, learning to use oral language may become a lifelong task." (p. 40)

The development of oral language in hearing impaired children can be enhanced by wearing hearing aids as soon as the hearing loss is diagnosed. Calvert and Silverman (1978), Streng et al. (1978) profess:

> If Piaget is correct in proposing that cognitive growth is independent of language, it seems safe to assume that children born with severe or profound hearing deficits would exhibit the same cognitive-characteristics as normally hearing children." (p. 31

Hearing impaired children acquire language in a similar manner as do hearing children. The major difference is that hearing impaired children cannot learn language on their own. (Groht, 1974)

Streng et al. (1978) find "most hearing impaired children require the guidance and support of knowledgeable teachers and parents to help them reach the stage where their oral language becomes functional." (p. 40)

The stages of linguistic growth in deaf children is affected by the presence of sign language in their environment. Holmes and Holmes (1981) write:

> The language of deaf children of deaf parents may appear earlier than language first appears in hearing children. A deaf child of deaf parents whose hearing loss was diagnosed at 3 months accumulated a sign vocabulary of 117 signs, compared to an average of 50 words acquired by a hearing child of the same age. (p. 24)

Deaf children who learn sign language as their first language follow the identical steps as those learning to speak. (Streng et al., 1978)

Hearing impaired children learn language best in natural situations. Like hearing children, hearing impaired children show little or no improvement in their language when grammar is formally

taught. Power et al. (1977) and Streng et al. (1978) feel:

> The procedure for stimulating language in the young hearing impaired child is analogous to that which a hearing child encounters when he first learns language. He hears language simply stated by his parents, concretely based, useful for his communication purposes, and repeated in his routinized schedules. (p. 110)

Parents and teachers of hearing impaired children are encouraged to deal with their children as children first, and hearing impaired second. Groht (1974) stresses:

> Just as a hearing child knows the meaning of words and expressions long before he tries to give back any of his own, so the deaf child must know many words and expressions before he is exposed to the teaching of specific words. His problem is not first of all speech, it is the developing of an awareness of language in human relationships. Understanding must come before use in any instance of learning and achievement. The little deaf child who finds satisfaction in being talked to, who is aware of what is being talked about, will soon be found imitating his mother, father and others. (p. 7)

Early Education

Michigan law mandates that handicapped children begin their education as soon as a diagnosis has been confirmed from birth through age 25. (Michigan Department of Education, 1981)

Mavilya and Mignone (1977) declare:

> The impact on the education of the hearing impaired child has extended, for the first time, down to the infant level, 0-3. Enlightenment with regard to the advantages of pursuing education at this stage of life has led to the establishment of infant programs throughout the world. (p. 1)

Heimgartner (1982) and Wishon (1982) believe that the habilitation of hearing impaired children should start at the earliest age possible in order to bring forth the best results.

Mavilya and Mignone (1977) add:

> Research substantiates the conviction that a child's preschool years are crucial in setting the pace and tone for his future intellectual and emotional maturity. For all children, especially those with impaired input modalities the years between 3 and 5 are critical learning years. (p. 34)

The following studies summarize the ideal preschool curriculum for hearing impaired children:

1. Heimgartner (1982) feels that varied sensory experiences should be integrated into the preschool program to help hearing impaired children get a better grasp and understanding of language. They need meaningful repetition of experiences in order to build concepts for communication.
2. Blackwell et al. (1978) and Schwartz (1979) view language experiences as a vital component leading to further linguistic and cognitive growth.
3. Appelman, Callahan and Lowenbraun (1980), Goodwin, Moores, and Weiss (1978), and Roberts (1979) emphasize cognitively-oriented activities and preacademic skills, such as prereading and premath experiences, as being an integral part

of any comprehensive program for young deaf children.

4. Mavilya and Mignone (1977) propose a balanced blend of academic and play-oriented activities: A young hearing-impaired child will best be served by a relaxed, middle of the road approach which includes all manner of activities geared toward stimulating a child's growth in speech, language, listening, and cognition with plenty of time for free play, as well as time and opportunity for structured individual and group activities. (p. 34)
5. Blackwell et al. (1978), Coley, Dubois, and Vernon (1980), Gardner and Zorfass (1983), Goodwin et al. (1978), Gustason, Pfetzing and Zawolkow (1980), Heimgartner (1982), Holmes and Holmes (1981), Meadow and Schlesinger (1972), Mitchell (1982), Roberts (1979), and Wilbur (1979) support enhancing the young deaf child's language and reading skills by offering a Total Communication environment which includes: sign language, finger-spelling, speech, speech-reading, amplification, and visual aids.

Classroom Environment and Experiences

It has already been shown that the majority of hearing impaired children, especially those who are profoundly deaf, start school years behind in language development when compared to their hearing peers. Thus, language training should begin immediately after a hearing impairment has been confirmed. (Blackwell et al., 1978; Champie, 1981; Luterman, 1979; Mitchell, 1982; Reilly, 1980; and Roberts, 1979)

The type of environment in which this language training occurs is very critical. First, and foremost, young children need an atmosphere that is friendly, warm, secure, comforting, supportive, and free of threats, punishments or emotional pressures. (Ali, 1980c; Goetz, 1979; Meadow and Schlesinger, 1972; Pellegrini, 1981; Streng et al., 1978; and Urzua, 1980)

Second, Mavilya and Mignone (1977) feel that hearing impaired preschoolers must be able to "gain environmental information in an atmosphere of self-confidence and a feeling of self-worth." (p. 39)

Third, Kirkland (1978) emphasizes the need for an environment that encourages thinking. In other words, the children are allowed to become active participants in the process of their learning. Active participants are offered opportunities to interact with their environment and with other people.

The following experiences provide opportunities for children to interact with their environment: experimentation with the graphic arts, modeling materials and manipulatives including finger and tempera painting, clay, cutting, pasting, crayoning, chalk, sand, and water play.

Kirkland's work is corroborated by Blackwell et al. (1978), Bridge and Lemon (1979), Cannella, Perry, and Reiff (1979), Chamberlain-Rickard (1982), Coley et al. (1980), Holmes and Holmes (1981), McKee and Thibault (1982), and Streng et al. (1978).

These ideas are consistent with Piaget's Theory of Cognitive Development. According to Piaget, "representational thought has its origins in the direct action and interaction with the environment which occurs during the sensorimotor period." (Roberts, 1979, p. 54)

Mitchell (1982) adds:

> Education of the deaf is often considered to be primarily concerned with the teaching of "language". Modern research and thinking in psycholinguistics suggest that language cannot be taught, but rather that linguistic development depends to a large extent on the manner in which children interact with their environment. (p. 331)

When developing a classroom environment and atmosphere suitable for young children, age appropriate activities are essential. Activities that are naturally motivating as well as enjoyable for the children must exist. (Blackwell et al. (1978), Kirkland (1978), and Lonbardino (1981)

Activities which incorporate concrete materials and manipulatives tend to capture the attention of children. (Cannella et al., 1979; Davis, 1980; and Hiebert, 1981)

Ault (1977) writes:

> Piaget and Montessori agree that children are curious about their world and continually seek to understand it. In Sensorimotor and Pre-operational stages such curiosity is displayed by children's active manipulation of objects. Education can help the child satisfy his curiosity by providing experiences which suit his level of development. For the preschool child this means that he should be given tasks that allow him to act on objects. (p. 177)

Goodwin et al. (1978) suggest that "curricula should be developed to take greater advantage of deaf children's visual motor proficiency, especially concerning meaningful manipulation of material." (p. 929)

Mavilya and Mignone (1977) note:

> To aid in developing a foundation for logical thinking in a hearing impaired child, activities ranging in progression from concrete, manipulative materials to pictorial representations to verbalization allowing for the self-discovery of basic concepts are necessary. (p. 39)

Numerous publications support preschool experiences that encourage children to learn about their world through use of the five senses - taction, gustation, olfaction, vision, and audition. Publications supporting this position include: Ali (1980a), Bridge and Lemon (1979), Caccamise, Johnson, and Meath (1981), Coley et al. (1980), Cunningham (1981), Denny and Lamme (1981),

Indiana State Department of Instruction (1980), Kelly and Tomlinson-Keasey (1978), Lowenthal (1981), Luzadder (1980), and Olson and Roettger (1971).

Multisensory language experiences are especially important for hearing impaired preschoolers. (Booher and Reynolds, 1980; Mavilya and Mignone, 1977; and Schwartz, 1979)

When it comes to educating hearing impaired children, Chamberlain-Rickard (1982) believes "that to obtain basic educational and cognitive skills, much thought and planning should be given to a curriculum that is highly visual, tactile, kinesthetic, and motivational."(p. 372)

Appelman et al. (1980) describe two types of meaning for each content word in the English language:

> The denotative meaning corresponds roughly to the dictionary definition of the word. Connotative meaning, on the other hand, is an idiosyncratic response to non-criterial attributes - what the word and its object, means to the person as opposed to its dictionary or denotative associations.
>
> The more connotative associations a word has for a child, the more its meaning for him, and the more likely he is to use it appropriately in everyday life. (p. 125-126)

Since hearing impaired children do not learn language incidentally through their ears, the more experiences they encounter with a word, the better the understanding. Heimgartner (1982) states:

> The development of effective language for hearing impaired children depends upon the availability of experiences. Language is not acquired mechanically. One does not first learn the words and then the meaning; meaningfulness and experience precede the acquisition of words to symbolize the experience. The relationship of experience and symbol is the basis of inner language. (p. 23)

Reading Readiness

In essence, the majority of studies reviewed discussed reading readiness to various degrees for both hearing and hearing impaired children.

Ali (1980a), Haberman (1979), Indiana State Department of Public Instruction (1980), Olson and Roettger (1979), and Sulzby (1981) define reading readiness as the development of prerequisite language and experiential skills and concepts leading one to begin reading.

Some of these prerequisite skills include:

1. Perceptual Training
2. Visual Ordering, Gaming, Copying and Discrimination
3. Representation of Objects in Space Through Drawings
4. Categorization
5. Auditory Discrimination

(Blackwell et al., 1978; Cannella et al., 1979; Goetz, 1979; Kirkland, 1978; and O'Donnell, 1979)

Numerous publications supported alphabet knowledge and skills related to the alphabet as part of a reading readiness program. Suggested skills include:

1. Awareness of the Differences in the Shapes of Letters
2. Letter Matching
3. Letter Names
4. Letter Sounds
5. Letter Sequence

(Ali, 1980a; Durrell, 1980; Giordano, 1980; Goetz, 1979; Hanson and Jenson, 1980; Hiebert, 1981; Mason, 1980; Masonheimer, 1981; Mavilya and Mignone, 1977; Olson and Roettger, 1970; and Pellegrini, 1981)

Visual Learners

Chapter I noted that vision plays a significant role in the educational process of hearing impaired students. Caccamise et al. (1981) indicate:

> As the hearing loss becomes more severe, the role of vision in the total development of hearing impaired individuals becomes more significant. Many hearing impaired students, by choice and by necessity, will be primarily visual learners. Those of us who have an opportunity to work with deaf and hard-of-hearing students, therefore, have a NEED and RESPONSIBILITY to understand and make effective use of the visual modality in the learning process. (p. 361)

Many studies show that deaf children of deaf parents generally perform better academically than deaf children of hearing

parents. Meadow and Schlesinger (1972) believe the reason being "that such deaf infants see language at an earlier stage of development; this frequent exposure to seen language may enable the infant to see more, thus cumulatively fostering the sensori-motor schemata." (p. 12)

Chapter I also reported that since the deaf rely upon vision as their primary source for learning about the world, they tend to focus on minute details, including letters, at an early age. Additionally, in a Total Communication Program, the manual alphabet becomes a means of communication for deaf children. The individual letters of the alphabet are used to represent a child's name sign. Signing Exact English, a system of sign language used in the schools, depends heavily upon the alphabet to initialize various signs that would otherwise look the same to the eye and receptively could be misconstrued.

Blackwell et al. (1978) support hearing impaired children being exposed to the letters of the alphabet and their configurations. "Prereading children do not know much about letter sequencing in their language code, but they can manipulate the distinctive features which make up the forms of that code." (p. 65)

Deneke, Hunsaker, and McLaughlin (1979), Hiebert (1981), and Masonheimer (1981) report that children three and four years of age develop a conceptual understanding of the alphabet. The

acquisition of print awareness follows a general pattern. The early part of the preschool period is an active time for print-related learning.

Print Awareness and Written Language

Children are constantly exposed to print in their environment. Hiebert (1981) proclaims, "Print is a salient part of billboards, storefronts, street signs, television commercials, and containers of various kinds. Television programs such as "Sesame Street" and "Electric Company" present information about print." (p. 237)

Blackwell et al. (1978) found "most hearing impaired children's exposure to written language occurs simultaneously with their first processes of language acquisition." (p. 65)

Young hearing impaired children love to draw. In fact, they resort to drawing in order to convey a message long before they can verbally express their ideas. Kolls (1980) adds, "There appears to exist a parallel development between drawing and cognition. Learning to think is learning to organize one's experiences. Drawing then is therefore visual thinking." (p. 4)

Hearing children enjoy scribbling, drawing and writing too. This stems from their innate desire to communicate. Usually, the first word children want to write is their name. (Denny and Lamme, 1981; and Kirkland, 1980)

An interest in reading generally begins with writing found in meaningful situations. Studies related to this topic include:

Cunningham (1981), Deford (1980), Edwards and Ringhand (1980), and Olson and Roettger (1979).

Parental Involvement

Leading authorities tend to agree that the parents are the most important people in the lives of children. Schools, by themselves, do not educate children. Parents, including both mothers and fathers, are a child's first teachers. (Ali, 1980b; and Appelman et al., 1980)

The quality of the home environment is critical for young children. Children need an enriched and diverse environment incorporating opportunities to explore and act upon the physical surroundings, to learn language, to interact socially with peers, and to intellectually construct and reconstruct their world. (Bridge and Lemon, 1979; McKee and Thibault, 1982; and Reilly, 1980)

Mavilya and Mignone (1977) profess "for any child, hearing or hearing impaired, parent involvement is one of the most important aspects of early childhood education. Schools cannot hope to 'lead out' the child if parents are not involved in the process." (p. 37)

In a Total Communication Program for the Hearing Impaired, it is imperative that the parents learn to sign in order to facilitate language growth and understanding in the home. (Lombardino, MacDonald, and Willems, 1981; and Meadow and

Schlesinger, 1972)

Specific activities for parents to explore in the home are outlined in Deneke et al. (1979), Indiana State Department of Public Instruction (1980), Kirkland (1980), and Mason (1980).

Pressures for Early Reading

Other than physical needs, the greatest concern most parents have for their children is an education that will enable them to enjoy a better life than the parents were able to have. Many parents believe that future success is related to educational success. Parents want their children to be good readers in order to ensure this educational success. (Ernst, 1979) However, parents rarely have the training to make educated decisions regarding how to best prepare their hearing impaired children for later success in reading. Thus they need the support of specialists in this area.

Briggs and Sampson (1981) recognize:

> Reading has become so vital in the American society that often people who do not read face difficulties in social interactions and in securing employment. This has resulted in an all-out effort by parents and teachers to guide children into discovering the process of reading.
>
> Authorities have differing points of view about reading and when reading instruction should begin. (p. 114)

Further, Denny and Lamme (1981) warn that many day care centers and preschools have begun introducing more academic-type tasks in response to the push toward a more academic kindergarten

program. They report that in some cases children have become turned off to school due to dittoes and meaningless drills.

Goetz (1979) cautions "few early childhood specialists have been trained to assess reading readiness or teach reading in a manner suited to the developmental level of very young children." (p. 4) Therefore, it is of particular importance for both parents and teachers of young hearing impaired children to investigate appropriate methods for introducing prereading skills.

Elkind (1982) proposes:

> Is our impatient society depriving kids of their right to be children? Parents hurry children when they insist that they acquire academic skills, such as reading, at an early age. This pressure by parents reflects parental need, not the children's needs or inclinations. (p. 42)

Other publications which discuss parental and societal pressures for early reading include: Briggs and Sampson (1981), Davis (1980), Mason (1980), O'Donnell (1979), and Ollila (1977).

In conclusion, on an individualized basis, some children may be ready to read at an early age. However, no child should be forced into reading situations. Parents need to be educated about child development. Teachers would be wise to educate themselves and their parents in this area and offer suggested age-appropriate, language oriented, and multisensory activities that would enhance prereading skills in an enjoyable manner.

CHAPTER III

PROCEDURES OF STUDY

Chapter III includes descriptions of the following: curriculum, activities, subjects, setting, and evaluation.

Description of the Curriculum

Implementation of the project described here resulted in the development of a twenty-seven week alphabet curriculum designed to help hearing impaired children "see language" through the letters of the alphabet. While the hearing child first hears language then must make an abstract connection between the language that he hears and its written representation, the hearing impaired child's first contact with language is visual. Thus, what might be considered to be abstract to a hearing child, may well be a very concrete learning experience for a hearing impaired child.

This curriculum introduces hearing impaired preschoolers to letters of the alphabet through daily participation in multisensory, language oriented activities.

The curriculum is designed so that every week, a series of activities is planned to introduce one letter of the alphabet. The last week, or twenty-seventh week, wraps-up, reviews, and evaluates the previous twenty-six weeks.

A "General Alphabet Plan Book" functions as the basic core of the curriculum. In other words, every week the same format is followed. Every Monday, Tuesday, Wednesday, Thursday, and Friday for twenty-seven weeks consist of similar activities. However, each activity varies according to the "Special Letter of the Week." The "Plan Book" is structured in such a way that anyone, including a substitute teacher, could pick it up and know exactly what to do.

Description of Activities

Once the idea to develop the alphabet curriculum was defined, the next step was to create a list of appropriate multisensory activities.

A detailed description of these activities is included in the book which functions as the appendix of this paper. However, for the purpose of clarification, an overview of some of the activities follows:

1. Art Activities From A-Z

   A list of activities that start with the respective sound/letter is provided (e.g., fingerpainting for "F"; pudding paint for "P"; a ribbon collage for "R"; and vegetable painting for "V").

2. Cooking Activities from A-Z

   A list of cooking ideas that start with the respective sound/letter is offered (e.g.,

applesauce for "A"; blueberry muffins for "B"; cooked chocolate pudding for "C"; and zucchini bread for "Z").

3. Snacks

Snacks that start with the appropriate sound/letter are suggested (e.g., raisins for "R"; strawberries for "S"; tomatoes and tangerines for "T"; and yogurt for "Y").

4. Beginning Sound Picture Cards

A list of vocabulary words starting with each letter/sound is presented (e.g., five, four, fish, foot, fire, fan, and feather for "F"). Pictures for each vocabulary word should be collected, then glued on a 3x5 index card. These cards can be used as an introduction activity to each letter, for speech lessons, lip-reading practice, increasing sign language vocabulary, a language lesson, an auditory training session, or a weekly language master activity.

5. Yarn Letters

Every week the special letter is made with pieces of thick yarn on the floor. A list of suggested measurements for yarn length is given.

6. Lacing Letters

Twelve inch upper case letters, with holes punched in each, are used in conjunction with a piece of yarn to lace as an eye-hand coordination activity. A pattern with suggested placement of holes and length of yarn for each letter is provided.

7. Alphabet Walk

Individual letters of the alphabet are written on 4x4 inch cards. After laminating each card, they should be taped on the floor approximately 12" apart, in proper sequence. Either a straight line or snake-like pattern can be implemented. The children spontaneously jump on the letters during free play.

8. Sandpaper Letters

Rough-grain sandpaper letters are cut out and pasted on 5x8 index cards. Colored felt-tip markers are used to indicate directionality in forming these tactile letters.

9. Pillow Letters

Scrap material is used to make 12" alphabet letter pillows. The children help to stuff and sew these three dimensional letters.

10. Body Letters

    Every week each letter is made by the children using their own body or with the help of a peer's body.

11. Alphabet String Beads

    The alphabet is written on old wooden string-beads. Each week the appropriate letter-bead is added to the box for stringing and is kept in the fine motor center.

12. Name Cards

    Each class member's name, teacher and aide included, is written on a card and hung up on the side of a cabinet within reach of the children. If any name has the special letter of the week in it, a gold star is placed above the letter.

Second, after the list of multisensory activities had been completed, it was sub-divided into various categories, such as art, cooking, snack, motor, speech, perception, etc.

Third, these activities were then grouped into a five day time period.

Fourth, itemized lists of what needed to be purchased, made, or prepared ahead of time were developed.

Fifth, a resource list of materials was created.

Sixth, a letter to the parents was drafted informing them of the curriculum.

Seventh, an alphabet file box consisting of twenty-nine manila folders was used to store the necessary materials. Twenty-six folders were identified from A-Z, one folder was titled "General Information," one folder was titled "Evaluation Activities," and one titled "Review/Wrap-Up."

Eighth, activities to evaluate each child's progress after completing the curriculum (the 27th week) were initiated.

Last, hours and hours were spent putting the plan into action.

Subjects and Setting

Six hearing impaired children participated in the implementation of this curriculum. The subjects (three girls and three boys) ranged in age from 2½ to 5 years. All subjects were enrolled in a self-contained hearing impaired classroom housed within a suburban public school of middle-class socioeconomic status. Each subject attended school for at least five half-day sessions a week. Adults in the classroom consisted of a teacher certified in deaf education, as well as, a full-time aide.

Excluding weeks for special holiday activities (e.g., Halloween, Thanksgiving, Christmas, etc.), the curriculum began the second week of school in September and ran through the middle of May.

Evaluation of the Curriculum

The effectiveness of the curriculum was measured by evaluating each child's performance on the following items:

1. Exposure
   a. Match some upper case letters to identical upper case letters.
   b. Match some lower case letters to identical lower case letters.
   c. Match some upper case to lower case letters.
   d. Match either upper case or lower case letters that are included in his/her name to the "Special Letter of the Week."
2. Labeling and Identification
   a. Find some of the letters (both upper and lower cases) upon verbal request.
   b. Name some of the letters (both upper and lower cases) through speech and/or fingerspelling.

Spontaneous Usage. A formal measurement of each child's spontaneous usage of the alphabet and related concepts was not conducted. However, general spontaneous responses were recorded. These spontaneous responses were grouped into the following three areas:

1. Concept Development with Respect to Letters and Their Role in Communication
   a. Categorization
   b. Cognitive development
   c. Expressive vocabulary
   d. Finger-spelling/spelling skills
   e. Lip-reading skills
   f. Recalling past experiences
   g. Sequencing
   h. Speech development
   i. Syntactic components
   j. Time concept
2. Meaningful Use of the Forms of the Letters
   a. Creative thinking
   b. Discoveries
   c. Fine motor development
   d. Gross motor development
   e. Naming letters
   f. Spatial awareness
3. Development of Social Skills Through Participation In Alphabet Activities
   a. Giving of self
   b. Group effort
   c. Making decisions
   d. Sharing

e. Singing

f. Taking turns

Results of these evaluation procedures are reported in Chapter IV.

CHAPTER IV

ANALYSIS AND EVALUATION

Chapter IV is divided into the following six sections: (1) Restatement of the Purpose of the Project, (2) Additional Goals, (3) Evaluation Procedures, (4) Narratives, (5) General Spontaneous Usage, and (6) Other Results.

Restatement of the Purpose of the Project

The purpose of this project was to develop a curriculum that is multisensory and language-oriented in nature, with the goal of introducing hearing-impaired preschoolers to the letters of the alphabet in a concrete, meaningful, and age-appropriate manner.

The anticipated results of the proposed curriculum were rather minimal when compared to what actually transpired.

The original intention was two-fold in nature. First, as far as the individual letters of the alphabet were concerned, the goal was solely to enhance a receptive awareness of the letters.

Hearing-impaired children, even more so than hearing children, need numerous input language experiences before they ever express (verbally/nonverbally) any form of language. The curriculum was not developed to teach hearing impaired children

to express the names of the individual letters.

In order to measure the effectiveness of the curriculum on enhancing receptive awareness of the alphabet letters, an evaluation of each child's performance on the following three items was originally planned:

1. Match some upper case letters to identical upper case letters.
2. Match some lower case letters to identical lower case letters.
3. Match either upper case or lower case letters that are included in their names to the "Special Letter of the Week."

The second, but more important part of the author's original intention, was to use the alphabet as a basis for providing meaningful, language experiences. Emphasis was to be placed on language development through active participation in the concepts being introduced.

As noted previously, since it takes time (sometimes months or years) before hearing impaired children learn to express themselves, a formal evaluation tool measuring significant gains in language development was not prepared. However, any spontaneous usage of the alphabet and related concepts would be recorded.

Additional Goals

The students' responses toward the curriculum were so favorable that within weeks after implementation, it became necessary to add measurement provisions for more comprehensive goals to the evaluation tool.

These additional goals included:

1. Match some upper case to lower case letters.
2. Find some of the letters (both upper and lower cases) upon verbal request.
3. Name some of the letters (both upper and lower cases) through speech and/or fingerspelling.
4. Copy some of the letters (both upper and lower cases).
5. Write some upper and lower case letters upon request.

The rationale for adding these goals resulted from the following responses received by the students:

1. Shortly after a new letter was introduced, students were matching and/or naming it on other visual aids in the room.
2. By the end of each week, students were attempting to say the special letter of the week.
3. Given a group of 5 or 6 letters, some students were lip-reading them correctly.

4. An alphabet train decorated one bulletin board. Students used it as a reference during free play to copy the letters on the chalkboard, paper or at the easels.
5. Whenever a visitor entered the room, in order to help learn their name, it was automatically written on the chalkboard. Immediately, students would acknowledge if it contained the special letter of the week.
6. Students informed the teacher when her name housed the special letter of the week during that group activity.

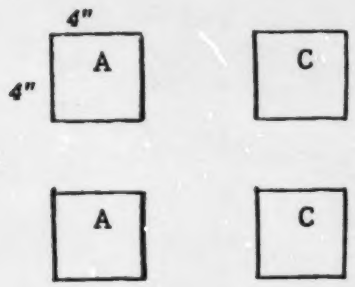
Evaluation Procedures

At the end of the project period, fourteen evaluation activities were administered over a period of five days. Some tasks required paper and pencil or crayon to complete. All students were invited to participate in each activity. However, if an activity proved beyond a student's comprehension level, the student was allowed to draw on the paper or proceed to one of the centers in the room.

A description of each activity is provided.

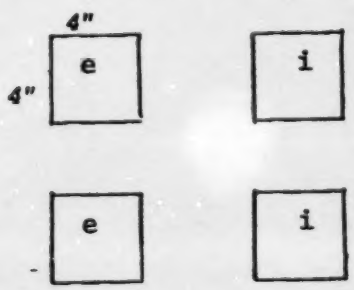
Day One

Activity #1: Match Upper Case Letters to Identical Upper Case Letters (flashcards)



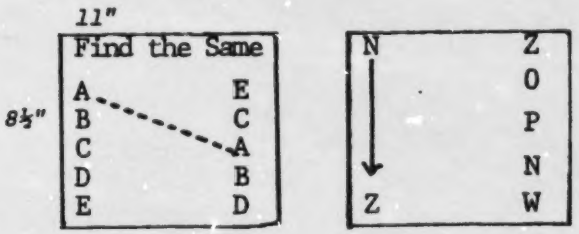
Two identical sets of flashcards that the students used throughout the curriculum were utilized in this activity. The teacher kept one set. Each student picked at least 4 cards from the second set. The teacher placed at least 8 cards from her set on the floor. Each card was pointed to on an individual basis. The child holding the identical mate went forth and placed it on top of the first card. The first child to redeem all of his/her cards, was the winner. Of course, they wanted to play the game again.

Activity #2: Match Lower Case Letters to Identical Lower Case Letters (flashcards)



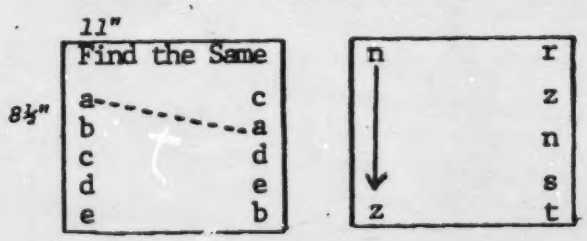
Activity number two was identical to activity number one, except two sets of lower case flashcards were substituted for the upper case ones.

Activity #3: Match Upper Case Letters to Identical Upper Case Letters (paper and pencil/crayon)



The letters were divided in half for activity number three. Upper case letters (A-M) were printed in order in a vertical column on the left side of the first paper. On the right side these identical letters were randomly printed in a vertical column. The student's task was to draw a line from each letter on the left to its identical mate on the right. Letters (N-Z) were printed on the second paper following the same procedure as the first paper.

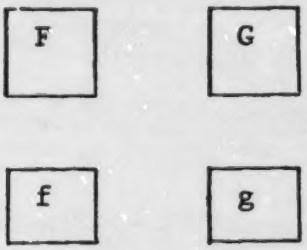
Activity #4: Match Lower Case Letters to Identical Lower Case Letters (paper and pencil/crayon)



Activity number four was identical to activity number three lower case letters were substituted for the upper case ones.

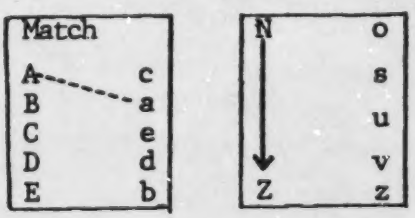
Day Two

Activity #5: Match Upper Case Letters to Lower Case Letters (flashcards)



Activity number five was similar to activities one and two, except one set of upper case letter flashcards and one set of lower case letter flashcards were used. Initially, the teacher kept the upper case flashcards and passed out the lower case flashcards to the students. When all cards were paired up, the game was played a second time with the teacher keeping the lower case flashcards and the students receiving the upper case flashcards.

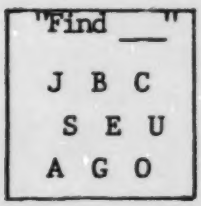
Activity #6: Match Upper Case Letters to Lower Case Letters (paper and pencil/crayon)



Activity number six resembled activity number three. Upper case letters were printed in a vertical column on the left side of the paper. On the right side, lower case letters were randomly printed in a vertical column.

Day Three

Activity #7: Find Upper Case Letters From Oral Direction (lip-reading)



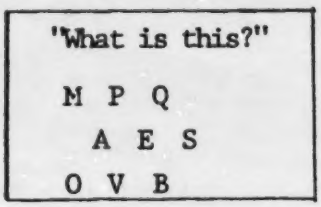
All upper case letters were printed in random order on one sheet of paper. First, the teacher asked the student using voice only (without the addition of finger-spelling) to find a particular letter. The student responded by pointing to the correct letter. Since many letters look the same on the lips, if the student found an incorrect letter, the teacher asked for the letter again using voice accompanied by the finger-spelled letter.

Activity #8: Find Lower Case Letters From Oral Direction (lip-reading)

Activity number eight was identical to activity number seven, except lower case letters were provided instead.

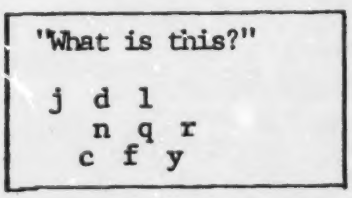
Day Four

Activity #9: Identify Upper Case Letters (Speech/ Finger-spelling)



All upper case letters were printed in random order on one sheet of paper. Activity number nine required the student to name each letter. The teacher pointed to an individual letter, then the student identified it by using speech and/or finger-spelling.

Activity #10: Identify Lower Case Letters (Speech/ Finger-Spelling)



Activity number ten was identical to activity number nine, except lower case letters were provided.

Activity #11: Copy Upper Case Letters (paper and pencil/crayon)

A	B
C	D

M	N
O	P

Upper case letters were written in order at the top of squared-off sections (1½" x 2") on two sheets of paper. Enough room was allotted in each section for the student to copy the given letter.

Activity #12: Copy Lower Case Letters (paper and pencil/crayon)

a	b
c	d

m	n
o	p

Activity number twelve was identical to activity number eleven, except lower case letters were substituted.

Day Five

Activity #13: Write Upper Case Letters From Oral/ Finger-spelled Directions

Activity number thirteen requested the student to print upper case letters upon request either at the chalkboard or on paper.

Activity #14: Write Lower Case Letters From Oral/ Finger-spelled Directions

Activity number fourteen was identical to activity number thirteen, except the student was requested to print lower case letters.

Narratives

Since a pre-test was not administered, a narrative on each of the six students who participated in the curriculum follows:

1. Male (1): The first male student started the curriculum at age 2½. Progress resulting from curriculum was evaluated at age 3. It was his first year in a self-contained, preschool classroom for the hearing impaired. However, the previous year he received services in his home from a teacher consultant for the hearing impaired, as part of the Infant Home Visitation Program. He has a moderate-to-severe hearing loss and wears personal hearing aids in both ears. His receptive and oral expressive vocabulary were near age-appropriate levels. He had no knowledge of the alphabet whatsoever. His parents were very supportive of the curriculum and participated in the activities on a regular basis.

Results of the Evaluation Activities: Male number one participated in several of the evaluation activities. Using the flashcards, he matched some identical upper case letters, but matched more identical lower case letters. Matching upper

case to lower case letters, he matched those flashcard letters that looked the same in either case (e.g., Cc, Jj, Oo, Pp, Ss, Uu, Vv, Ww, Xx, Zz). Male number one could verbally identify some upper and lower case letters upon request. He was not interested in any of the paper and pencil activities.

2. Male (2): The second male student started the curriculum at age 3½. Progress resulting from curriculum was evaluated at age 4. It was his second year in preschool preceded by a half-year of infant-home training. He has a profound hearing loss and wears personal amplification in both ears. Both of his parents and a younger male sibling are deaf, also. Thus, he has been exposed to sign language and finger-spelling since he was a baby. All expressive communication was through sign language accompanied by some vocalizations. His speech was unintelligible at that time and consisted mostly of vowels. Male number two could read his name and finger-spell some of the letters in his name as well as some names of his family members. His parents were extremely supportive of the program and participated in the activities on a regular basis.

Results of the Evaluation Activities: Male number two successfully completed all of the evaluation activities, except for activity number 13. When asked to print the upper case letters upon request, he responded with about 80% accuracy. However, he did print all lower case letters upon request.

3. Male (3): The third male student started the curriculum at age 4. Progress resulting from curriculum was evaluated at age 4½. It was his second year in a preschool program for the hearing impaired preceded by two months of infant-home training. He has a profound hearing loss and wears two personal hearing aids. Unfortunately, he had been misdiagnosed the previous year as hard-of-hearing. As a result, his amplification the previous year was not powerful enough to meet his needs. Thus, one year of auditory development had been lost. His verbal speech was limited to gross vocalizations consisting mostly of vowels. He expressed his needs, thoughts, and wants mainly through sign language. Male number three could read his name and match letters to it. His parents supported the curriculum and followed through with appropriate activities at home.

Results of the Evaluation Activities: Male number three successfully completed all the evaluation activities through number 12. He participated in the last two activities, printing the letters upon request, but not all of them accurately

4. Female (1): The first female started the curriculum at age 3½. Progress resulting from curriculum was evaluated at age 4. It was her first year in preschool. Her hearing loss had been identified for approximately one year. She received infant-home training services up until entering preschool. Female number one has virtually no usable hearing whatsoever.

She wears two personal hearing aids, however, her audiologist stated she gains very little benefit from them. Female number one comes from a bi-lingual home where English is the second language spoken. Even with sign language, her expressive communication was still quite limited. She had no knowledge of the alphabet. Her parents supported the curriculum and were very receptive to the ideas presented. Female number one was absent regularly throughout the year.

Results of the Evaluation Activities: Using the flashcards, female number one matched all upper case letters to identical upper case letters and all lower case letters to identical lower case letters. She was eager to participate in the paper and pencil activities matching identical letters. She completed those with some success. Matching upper case letters to lower case letters, she matched those flashcard letters that looked the same in either case (e.g., Cc, Jj, Oo, Pp, Ss, Uu, Vv, Ww, Xx, Zz). Female number one did copy some upper case letters, but not any lower case letters.

5. Female (2): The second female started the curriculum at age 5. Progress resulting from curriculum was evaluated at age 5½. It was her third year in a preschool program for the hearing impaired. Like female number one, this student has virtually no residual hearing. She never consistently responded auditorially with the aid of amplification. She wears one personal hearing aid on an irregular basis. Her grandmother is

deaf and has been in a signing environment since she was a baby. Female number two was beginning to mouthe words (move her mouth as if saying a word with little or no voice) as she signed. She could read her name, finger-spell her name, and was attempting to write it. Her parents were very supportive of the curriculum and participated in the activities on a regular basis.

Results of the Evaluation Activities: Female number two successfully completed all fourteen evaluation activities. In addition, she could write the letters in sequence from memory.

6. Female (3): The third female student started the curriculum at age 5½. Progress resulting from curriculum was evalua[illegible] 6. It was her third year in a preschool program. S[illegible] h[illegible] a severe-to-profound hearing loss and wears personal amplification in both ears. She comes from a bi-lingual home where English is spoken about fifty percent of the time. Her expressive speech was very intelligible. She could read her name, match letters to identical letters in her name, but could not identify them. Her parents supported the curriculum and were eager to participate in the activities.

Results of the Evaluation Activities: Female number three successfully completed all fourteen evaluation activities. In addition, she could write the letters in sequence from memory, as well as sing the ABC's without any help.

Two additional notes that pertain to all six students: (1) Every student successfully matched the letters in their name to the "Special Letter of the Week" and (2) All six students wore sophisticated amplification in both ears (FM auditory trainers) during school hours. These units were provided by the school program.

General Spontaneous Usage

A formal measurement of each child's spontaneous usage of the alphabet and related concepts was not conducted. However, general spontaneous responses were recorded. These responses were grouped into three areas. A description of each follows:

1. Concept Development with Respect to Letters and Their Role in Communication

   a. Categorization

      1. Students were observed separating puzzle piece letters into two piles, upper case letters in one pile and lower case letters in the other pile.

      2. Students divided speech picture cards according to initial sound.

      3. Students grouped cut-up fruit sections by fruit.

   b. Cognitive Development

      1. Consistently throughout the curriculum, students matched letters to the various visual aids in the room.

   c. Expressive Vocabulary

      1. Approximately eighty words were introduced in the "beginning sound picture card" activity

alone whose signs were initialized with letters of the alphabet. Many of these words became part of the students' vocabulary.

2. New vocabulary that had been introduced during the art, cooking and snack activities was transferred by the students and used in other experiences.

3. Whenever possible, body parts, colors and animal names were reinforced. More expression of those terms by the students was noted.

4. Television characters, such as Miss Piggy, Sesame Street characters, and the Muppets, whose names were introduced in the curriculum, became part of everyday vocabulary.

5. Spatial concepts, such as (up/down; left/right; short/long; soft/hard; in/out; big/little) were noted.

6. Expressions, such as "That's O.K." and "Uh-oh." were heard at appropriate times.

7. Students classified the letters according to big (upper case) and small (lower case).

d. Finger-Spelling/Spelling Skills

1. Students were observed looking at words and then fingerspelling them.

2. Some students began finger-spelling their peers' names.

3. Certain words whose sign started with the appropriate initial letter were attempted to be written by some of the students.

e. Lip-reading Skills

1. Students would point out if a new word or someone's name started with the same sound/ letter as their name or another person's name.

2. Students were observed paying closer attention to a speaker's lips.

f. Recalling Past Experiences

1. Students enjoyed looking through completed monthly newsbooks, calendars, or photo albums depicting previous alphabet experiences and talking about what happened.

g. Sequencing

1. Students became more aware of the position of the letters being at the beginning, middle or end of the alphabet. With time, when attempting to match letters, fewer and fewer hesitations about placement were cited.

h. Speech Development

1. Numerous attempts at speech were noted throughout the curriculum. Speech is more natural sounding and easier to produce in a natural, relaxed and non-tense environment.

2. The students really tried to say the names of the letters and several students could say them accurately.

3. Learning the names/sounds of the letters carried over into speech lessons. Students would see a certain letter in a word and try to say it on their own.

4. Letters (c, h, and k) helped to produce some breath at the beginning of words which previously had been omitted by the students altogether (e.g., hand, help, come, key).

5. Learning the letter "n" aided in the spontaneous production of the word, nose. Prior to that time, the teacher usually received "_ose."

i. Syntactic Components

1. The length of the students' expressive language expanded throughout the curriculum. Two and three word sentences (phrases) grew to five- six- and seven-word sentences.

2. In relation to number one, more complex sentences including verbs, adjectives and nouns, were noted. Students used more language and less gesturing than at the beginning of the curriculum.

3. Students also added the pronoun I, the verb is, and the plural s, to their vocabulary.

j. Time Concept

1. The concept of time generally is a very hard concept for hearing impaired children to learn. As a result of the various activities, words such as next, last, finished, and before, were added to their spontaneous vocabulary.

2. Students started anticipating the next special letter for the following week and would point it out to the teacher.

3. Students really became excited if the special letter of the week was part of their name. Some anticipated if the next letter to be was in their name. Others realized too when every letter in their name had been covered and showed disappointment.

2. Meaningful Use of the Forms of the Letters

a. Creative Thinking

1. Students were observed making designs out of the individual letters.

b. Discoveries

1. Students enjoyed using the Cuisenaire Rods to form letters. Two boys discovered one day that an "H" on one side of the table looked like the letter "I" from a different angle. That lead to the letter "W" looking like the letter "M".

c. Fine Motor Development

1. Students were fond of copying letters, names and words at the easels, on paper or at the chalkboard.

2. On one occasion, one of the boys copied all the upper case letters, then connected the letters "M" and "S" which represented the teacher's name sign. He included a picture of the teacher and placed it on her desk as a gift.

3. On a different occasion, one female student used her recess period to copy the entire alphabet on the chalkboard. She was very proud of herself too!

4. Students were observed rolling clay, then shaping letters from it.

5. Other students used small pegs and a pegboard to create letters.

d. Gross Motor Development

1. Students jumped, walked, and ran forwards and backwards on the "Alphabet Walk" frequently during free play or lining up to wash their hands.

e. Naming Letters

1. Students continuously named letters they saw on signs, bulletin boards, boxes, books, visual aids, etc.

f. Spatial Awareness

1. Students attempted to make the letters with their own bodies prior to doing it as a group.

2. Students experimented tracing the masking-taped letters on the floor with various body parts.

3. Students would identify the stuffed pillow-letters from various positions while playing with them. Also, if a pillow-letter was hung up incorrectly, one student invariably would position it the proper way.

3. Development of Social Skills Through Participation in Alphabet Activities

   a. Giving of Self

      1. Students were observed admiring and praising another student's work.

      2. Students began drawing pictures for each other which included the recipient's name.

      3. The color, yellow, became a favorite within the group. It was a big deal to be the first one or only one to pick it. Once, one student made an exchange because she felt sorry for someone who did not get what she wanted. Another time, one boy chose a different color on purpose to allow the boy sitting next to him to get the color he wanted.

   b. Group Effort

      1. The students learned the meaning of group effort through participation in the cooking, snack, and stuffing pillow-letters activities.

   c. Making Decisions

      1. Since many people feel sorry for hearing impaired children, they tend to protect and decide everything for the children making them very dependent upon adults. Many activities were designed so the students had to make choices and decisions on their own. It was hard for some of the children at first, but became easier with time.

   d. Sharing

      1. Students took turns bringing in the snack on a weekly basis. They felt proud when it was their turn to share with everybody.

      2. Students enjoyed hanging their art work on the hall bulletin board. They watched for the hearing children and other teachers to look at it.

e. Singing

1. Smiles appeared on many faces when the students sang the "Alphabet Song" with and/or for the hearing children in the building.

f. Taking Turns

1. Many activities required the students to take turns. Generally, hearing impaired children are extremely spoiled and used to being first or getting everything they want. Toward the end of the curriculum, minimal temper tantrums were observed when one was last in line to participate in an activity.

Other Results

Parents. The parents of the subjects who participated in the curriculum were very supportive of it. Not only did they willingly cooperate with the weekly activities that were sent home, but many parents expanded upon them with very creative ideas.

One parent and her son made "special" cookies for the class. Each classmember received two cookies, initials for their first and last names.

Another parent always sent in quite a variety of snacks representing the special letter of the week. She really used her imagination.

One parent contributed storybooks to go along with new vocabulary being introduced.

Many parents commented positively on the consistent amount of communication that was sent home about the curriculum.

Several parents reported that as soon as the curriculum began, their children started pointing out letters by name on

everything they saw (e.g., signs, store windows, cereal boxes, television, T.V. guides, and books).

One parent remarked that her hearing impaired son was learning and knew more than a neighbor of the same age who had normal hearing.

A deaf parent stated that deaf children need to learn to finger-spell words at the same time they are learning to sign them.

Hearing Students. Every art activity throughout the curriculum was hung-up on a special bulletin board in the hall. Many hearing students in the building anxiously waited for the board to be changed every week.

An "Alphabet Dog" that grew with each letter was also placed in the hall. The hearing students were just as thrilled as the hearing impaired students watching it grow every week.

Individual sheets picturing the manual alphabet were made available in the hall. The hearing students kept asking for more sheets until every student in the building had a personal copy. Many of these students learned to finger-spell the alphabet and attempted to communicate with the hearing impaired children.

Professional Staff. Both general education teachers and teachers of the hearing impaired felt the alphabet curriculum was an excellent idea. Many of them questioned the preschool teacher quite frequently to see how the curriculum was progressing and offered words of encouragement. Some teachers stopped by the

preschool classroom on a weekly basis to visit the children and ask them what they had done that week.

CHAPTER V

CONCLUSION

A summary of the project, recommendations for future use of the curriculum, and suggestions for further study are discussed in this chapter.

Summary

Implementation of the curriculum described in this project demonstrated that its intention, to introduce hearing impaired preschoolers to the letters of the alphabet in a concrete, meaningful and age appropriate manner, was accomplished. The results of the evaluation activities indicate that the youngest students (2½ and 3 years of age) achieved the original goal of enhancing their receptive awareness to the letters of the alphabet. The older students (3½ through 5 years of age) not only enhanced their receptive awareness of the letters, but also their expressive capabilities.

The general spontaneous responses of the students using the alphabet, confirm that the multisensory, language oriented alphabet activities did promote both receptive and expressive language development. In fact, the author was amazed by the consequences of the curriculum. The overall results were far greater than the author ever anticipated.

Some reasons that may have contributed to the success of the curriculum follow:

1. The alphabet activities were sensorial, concrete, diverse, and presented in a manner which captured the complete attention of the students.
2. The alphabet activities were age-appropriate, naturally motivating, and encouraged the students to become active participants in the process of their learning.
3. The alphabet activities offered a positive and relaxed environment which enabled the students to become successful, thus enhancing their feelings of self-worth.
4. The curriculum was structured with a routine that the students knew exactly what to expect every week.
5. The curriculum provided meaningful repetition of experiences in order to build concepts for communication.
6. The curriculum included the parents' participation which fostered reinforcement of concepts between school and home.

The author must admit that the curriculum involved numerous hours for planning and preparation that had not been expected. However, once the curriculum was implemented, it furnished a ready-made format for most of the school year.

Watching the students' enthusiasm and excitement toward the curriculum, more or less gave the author the necessary stamina to keep on producing creative ideas.

One reaction from the students that really touched the author was every week after placing the masking-taped letters on the floor, the students invariably got down on their knees and kissed each letter!

Because the students were so stimulated by the curriculum and due to their fondness of the alphabet pillow-letters, the author decided to make the students Christmas gifts based on the same theme. Each student received two alphabet pillow-letters representing the initials of their first and last names. A square piece of felt was sewn on each pillow-letter with the respective name embroidered on it. The students and parents really appreciated them.

Based upon nine years of teaching hearing impaired children, the author observed a point about the curriculum that is worth stating. As noted previously, language deficits generally accompany hearing impairments which result in hours and hours, weeks, sometimes months of language input before one receives

output from a hearing impaired student. At times, waiting so long before seeing any progress whatsoever can be quite frustrating for the teacher and parents. It leads one to question if there is any hope to their endeavors. The alphabet curriculum, however, was a completely different story. Within a week after its initiation, the author and parents viewed positive results. If need be, for this reason alone, the alphabet curriculum was appropriate for hearing impaired preschoolers and worth its weight in gold.

Recommendations for Future Use of the Curriculum

This section will offer recommendations in the following three areas: (1) Suggestions if Curriculum was Repeated, (2) Recommendations for Older Students, and (3) Extended Activities.

Suggestions If Project Was Repeated.

Suggestion One: Because of the numbers of hours needed to prepare for the implementation of the curriculum, especially if for the first time, the author would suggest that it not even be attempted unless the teacher is assured of some help with it. The ideal person to lend assistance would be the aide who is generally assigned to every preschool classroom for the hearing impaired. If not, possibly a dependable parent, grandparent, high school co-op student, or a volunteer from the community could be utilized.

Suggestion Two: Some preschool programs for the hearing impaired do not meet with students five days-a-week. The curriculum could be adapted to meet their needs simply by eliminating some of the activities and reorganizing the scheduling of them.

Suggestion Three: To avoid the expense of purchasing new material for the alphabet pillow-letters, ask parents, staff, or relatives for scrap pieces of material or browse through neighborhodd garage sales.

Recommendations for Older Students (5-6 Year Olds).

Recommendation One: Stories that start with the "Special Letter of the Week" could be read as an additional group language activity.

Recommendation Two: A "Music/Listening Center" could be provided. Musical instruments starting with the "Special Letter of the Week" could function as another medium for developing listening skills.

Recommendation Three: Use the curriculum as a means of introducing the students to the flavors associated with each color name (e.g., during "C" week introduce chocolate (brown) and cherry (red); during "L" week introduce lime (green), licorice (black) and lemon (yellow)).

Recommendation Four: During "Review Week," students could use glue and alphabet macaroni to properly sequence the letters on a sheet of paper.

Extended Activities

While reviewing the literature for this project, several sources offered additional multisensory alphabet activities. Any one of the following activities could be chosen to complement the alphabet curriculum.

Pretzel Time

> Each child receives a napkin and some thin pretzel sticks. The children are encouraged to make alphabet letters from the pretzel sticks as an occasional snack treat. (Bridge and Lemon, 1979, p. 46)

Initially Delicious: Writing in Chocolate Script

> All that is needed for writing in chocolate script is a square pan for each child (the kind brownies are baked in), plenty of chocolate syrup, and paper towels, soap, and water to clean sticky fingers.
>
> Pour enough chocolate syrup in each pan so the children can smear it over the entire bottom surface. They write capital letters and abbreviations in the chocolate using their index fingers. So the chocolate will not go to waste, invite the children to dip various goodies in the chocolate a la fondue. (Huttar and Ravosa, 1981, p. 75)

Floating Letters

> Collect styrofoam meat trays and wash them (in a dishwasher if possible to get them very clean). Make or obtain heavy cardboard capital letter cutouts. The children can choose cutouts for initial combinations. Trace one or more on a meat tray with a pencil and then cut them out. They then set their initials afloat in a large basin of water (Hint: add some blue food coloring to the water and letters will show up better). The part children will enjoy most is taking their letters home and floating them in their very own bathtubs. (Huttar and Ravosa, 1981, p. 75)

Letter Cans

Collect twenty-six coffee cans with plastic lids. Cover the cans and place a felt or sandpaper letter of the alphabet on each.

Use the letter cans or boxes as receptacles for objects whose names begin with a given letter or for matching letters. Slots can be cut in the top of the cans for dropping in cards in which the matching letter is printed. (Bridge and Lemon, 1979, p. 46)

Matching Letters

Prepare large envelopes imprinted with letters such as p, b, q, g, a, o. Also prepare a series of cards with the same letters. Have the child place the cards in the matching envelope. (Mavilya and Mignone, 1977, p. 71-72)

Letter Names

Project Alpha-Bits cereal on an overhead projector and let children give names of the letters. (Olson and Roettger, 1979, p. 39)

Pillow Letters (An alternate way to make them)

When choosing fabrics try to associate the letters with the fabrics, for instance, pink for the letter "P", tiger-striped material for the letter "T", and furry fabric for the letter "F". Use plain material for the backing of each letter to eliminate front and back confusion.

For the stuffing, use shredded paper or newspaper pieces. Snap openings make stuffing easy to add or remove.

As for storage problems, there are none. At the end of the year the letters are unstuffed and folded flat. (Luzadder, 1980, p. 111)

Suggestions for Further Study

Suggestion One: Since a formal evaluation of each child's language development and/or spontaneous usage of the alphabet and related concepts was not implemented with the curriculum, one may desire to create such a tool. However, if such an instrument would cause pressure on the students to achieve and perform, the author would rather the idea be laid to rest. A relaxed, comfortable, and non-threatening environment is too vital a component of the curriculum to sacrifice.

Suggestion Two: Based upon comments received by the author throughout the execution of the curriculum, an interesting study might accure from the application of the alphabet curriculum with normal hearing preschoolers. Results obtained from both groups of children, normal hearing and hearing impaired, could be compared and analyzed.

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